### (19) World Intellectual Property Organization International Bureau



### 

## (43) International Publication Date 15 August 2002 (15.08.2002)

#### **PCT**

# (10) International Publication Number WO 02/062888 A1

- (51) International Patent Classification<sup>7</sup>: C08L 19/00, 21/00, C08C 19/20, 19/30
- (21) International Application Number: PCT/US02/03192
- (22) International Filing Date: 4 February 2002 (04.02.2002)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/267,594

8 February 2001 (08.02.2001) US

- (71) Applicant (for all designated States except US): ARIZONA CHEMICAL COMPANY [US/US]; 4600 Touchton Road, Suite 500, Jackonsville, FL 32246-8225 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): PHILLIPS, Claude, F., Jr. [US/US]; 2127 East Ninth Street, Lynn Haven, FL 32444-3151 (US). CONTE, Alexander, J. [US/US]; 13834 Windsor Crown Court East, Jacksonville, FL 32225 (US).
- (74) Agents: PARKER, David, W. et al.; Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

#### (54) Title: METHODS OF VULCANIZING ELASTOMERS USING TALL OIL HEADS

(57) Abstract: Tall oil heads may be used in lieu of, or in combination with, conventional fatty acids in the compounding and curing of vulcanizable rubber. Tall oil heads inherently contain a significant amount of neutral materials, and their incorporation into a pre-vulcanized rubber composition allows the compounder to incorporate less aromatic oil into the composition. The composition may be made by a method comprising compounding a mixture comprising a vulcanizable elastomer, a sulfur source, and Tall Oil Heads (TOH), the TOH comprising 40-75 wt% fatty acids and greater than 10 wt% neutral materials, and heating the compounded mixture to a temperature sufficient to cause substantial crosslinking of the elastomer.